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NEWS	1		Web Page URLs for STN Seminar Schedule - N. America
NEWS	2		"Ask CAS" for self-help around the clock
NEWS	3	JAN 17	Pre-1988 INPI data added to MARPAT
NEWS	4	FEB 21	STN AnaVist, Version 1.1, lets you share your STN AnaVist visualization results
NEWS	5	FEB 22	The IPC thesaurus added to additional patent databases on STN
NEWS	6	FEB 22	Updates in EPFULL; IPC 8 enhancements added
NEWS	7	FEB 27	New STN AnaVist pricing effective March 1, 2006
NEWS	8	MAR 03	Updates in PATDPA; addition of IPC 8 data without attributes
NEWS	9	MAR 22	EMBASE is now updated on a daily basis
NEWS	10	APR 03	New IPC 8 fields and IPC thesaurus added to PATDPAFULL
NEWS	11	APR 03	Bibliographic data updates resume; new IPC 8 fields and IPC thesaurus added in PCTFULL
NEWS	12	APR 04	STN AnaVist \$500 visualization usage credit offered
NEWS	13	APR 12	LINSPEC, learning database for INSPEC, reloaded and enhanced
NEWS	14	APR 12	Improved structure highlighting in FQHIT and QHIT display in MARPAT
NEWS	15	APR 12	Derwent World Patents Index to be reloaded and enhanced during second quarter; strategies may be affected
NEWS	16	MAY 10	CA/CAPLUS enhanced with 1900-1906 U.S. patent records
NEWS	17	MAY 11	KOREAPAT updates resume
NEWS	18	MAY 19	Derwent World Patents Index to be reloaded and enhanced
NEWS	19	MAY 30	IPC 8 Rolled-up Core codes added to CA/CAPLUS and USPTFULL/USPAT2
NEWS	20	MAY 30	The F-Term thesaurus is now available in CA/CAPLUS
NEWS	21	JUN 02	The first reclassification of IPC codes now complete in INPADOC
NEWS EXPRESS		JUNE 16	CURRENT WINDOWS VERSION IS V8.01b, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 23 MAY 2006.
NEWS HOURS			STN Operating Hours Plus Help Desk Availability
NEWS LOGIN			Welcome Banner and News Items
NEWS IPC8			For general information regarding STN implementation of IPC 8
NEWS X25			X.25 communication option no longer available after June 2006

Enter NEWS followed by the item number or name to see news on that specific topic.

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* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 16:10:04 ON 19 JUN 2006

=> file pctfull

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

FILE 'PCTFULL' ENTERED AT 16:10:19 ON 19 JUN 2006

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FILE LAST UPDATED: 13 JUN 2006 <20060613/UP>

MOST RECENT UPDATE WEEK: 200623 <200623/EW>

FILE COVERS 1978 TO DATE

>>> IMAGES ARE AVAILABLE ONLINE AND FOR EMAIL-PRINTS <<<

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<http://www.stn-international.de/stndatabases/details/ipc-reform.html> >>>

>>> FOR CHANGES IN PCTFULL PLEASE SEE HELP CHANGE

(last updated April 10, 2006) <<<

=> s WO0071135/pn

L1 0 WO0071135/PN
(WO71135/PN)

=> s WO 0071135/pn

L2 0 WO 0071135/PN
(WO71135/PN)

=> s WO200071135/pn

L3 1 WO200071135/PN
(WO200071135/PN)

=> s enhance? or synerg? or additi?

279226 ENHANCE?

36077 SYNERG?

711063 ADDITI?

L4 734288 ENHANCE? OR SYNERG? OR ADDITI?

=> s l4 and l3

L5 1 L4 AND L3

=> d ibib kwic

L5 ANSWER 1 OF 1

ACCESSION NUMBER:

TITLE (ENGLISH):

TITLE (FRENCH):

INVENTOR(S):

PATENT ASSIGNEE(S):

LANGUAGE OF PUBL.:

DOCUMENT TYPE:

PATENT INFORMATION:

PCTFULL COPYRIGHT 2006 Univentio on STN

2000071135 PCTFULL ED 20020515

ANTI-TUMOR COMPRISING BOROPROLINE COMPOUNDS

AGENTS ANTI-TUMORALES CONTENANT DES COMPOSES DE

BOROPROLINE

WALLNER, Barbara, P.;

MILLER, Glenn

POINT THERAPEUTICS, INC.

English

Patent

NUMBER

KIND

DATE

WO 2000071135

A1 20001130

DESIGNATED STATES

W:

AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ
DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS
JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN

MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR
 TT TZ UA UG UZ VN YU ZA ZW GH GM KE LS MW MZ SD SL SZ
 TZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK
 ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM
 GA GN GW ML MR NE SN TD TG

APPLICATION INFO.: WO 2000-US14505 A 20000525
 PRIORITY INFO.: US 1999-60/135,861 19990525
 PI WO 2000071135 A1 20001130

DETD . . . rate of division

io and iTi. some cases uncontrolled growth. One example o 'i a
 proliferative cell disorder is a
 tumor. In addition to posing a serious health risk in and of
 themselves, primary malignant
 tumors are particularly problematic given their tendency to invade. .
 .

In addition to agents of Formula 11, other agents useful in
 the invention include those
 in which the proline residue in Formula 11. . .

In addition, agents can be selected that are effective as
 anti-proliferative agents or as
 anti-angiogenic agents but are relatively ineffective as hemopoietic
 cell stimulatory. . .

In addition, agents of Formula I can be selected that are
 effective as anti-proliferative
 agents but are relatively ineffective as hemopoietic cell stimulatory.
 . .

. . .
 1,3-butane diol. Among the
 acceptable vehicles and solvents that may be employed are water,
 Ringer's solution, and
 isotonic sodium chloride solution. In addition, sterile, fixed
 oils are conventionally employed
 as a solvent or suspending medium. For this purpose, any bland fixed oil
 may be employed
 including synthetic mono- or di-glycerides. In addition, fatty
 acids such as oleic acid may be
 used in the preparation of injectables. Carrier formulations suitable
 for oral, subcutaneous,
 intravenous, intramuscular,. . .

. . .
 vehicles include fluid and nutrient replenishers, electrolyte
 replenishers
 (such as those based on Ringer's dextrose), and the like. Preservatives
 and other additives
 may also be present such as, for example, antimicrobials, anti-oxidants,
 chelating compounds,
 and inert gases and the like. The pharmaceutical compositions may. . .

. . .
 poly(valeric acid), and poly(lactide-cocaprolactone), and natural
 polymers such as
 alginate and other polysaccharides including dextran and cellulose,
 collagen, chemical
 derivatives thereof (substitutions, additions of chemical
 groups, for example, alkyl, alkylene,
 hydroxylations, oxidations, and other modifications routinely made by
 those skilled in the
 art), albumin and. . .

. . .
 active component permeates at a
 controlled rate from a polymer such as described in U.S. Patent Nos.

3,854,480, 5,133,974
and 5,407,686. In addition, pump-based hardware delivery
systems can be used, some of
which are adapted for implantation.

levels of IL-6 are secreted from
bone marrow stromal cells of D+ and D- rats. Moreover, IL-6 levels for
both strains were

enhanced by the addition of PT Bone marrow stromal
cells were established from the
long bones of 3 Fischer D+ and D- rats as described. . .

with the WEHI- 1 64 fibrosarcoma demonstrated that PT- I 00
could suppress the growth of an established s.c. tumor. In
addition, when PT- I 00
administration was started shortly after implantation of VVEHI- 1 64 on
day 2, it was found that
not. . .

CLMEN. . . of first sheet)

This International Searching Authority found multiple inventions in this
international application, as follows:

1 . -1 As all required additional search fees were timely paid
by the applicant, this International Search Report covers all
F searchable claims.

2 As all searchable claims could be searched without effort justifying
an additional fee, this Authority did not invite payment
of any additional fee.

3 As only some of the required additional search fees were
timely paid by the applicant, this International Search Report
F covers only those claims for which fees were. . .

4 F1 No required additional search fees were timely paid by
the applicant. Consequently, this International Search Report is
restricted to the invention first mentioned in the claims; it is covered
by claims Nos.:

Remark on Protest E1The additional search fees were
accompanied by the applicant's protest.

F-1 No protest accompanied the payment of additional search
fees.

Form PCT/ISA/21 0 1continuation of first sheet (1)) (July 1998)

INTERNATIONAL SEARCH REPORT

International Application No. PCTAis 00 /14505

FURTHER INFORMATION CONTINUED. . .

=>

---Logging off of STN---

=>

Executing the logoff script...

=> LOG Y

COST IN U.S. DOLLARS

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TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

3.13

3.34

STN INTERNATIONAL LOGOFF AT 16:11:39 ON 19 JUN 2006

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USPATFULL/USPAT2
NEWS 9 MAY 30 The F-Term thesaurus is now available in CA/CAPLUS
NEWS 10 JUN 02 The first reclassification of IPC codes now complete in
INPADOC
NEWS 11 JUN 26 TULSA/TULSA2 reloaded and enhanced with new search and
and display fields
NEWS 12 JUN 28 Price changes in full-text patent databases EPFULL and PCTFULL
NEWS EXPRESS FEBRUARY 15 CURRENT VERSION FOR WINDOWS IS V8.01a,
CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
AND CURRENT DISCOVER FILE IS DATED 26 JUNE 2006.
V8.0 AND V8.01 USERS CAN OBTAIN THE UPGRADE TO V8.01a AT
<http://download.cas.org/express/v8.0-Discover/>
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NEWS LOGIN Welcome Banner and News Items
NEWS IPC8 For general information regarding STN implementation of IPC 8
NEWS X25 X.25 communication option no longer available after June 2006

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FILE 'HOME' ENTERED AT 08:17:16 ON 29 JUN 2006

=> file dgene

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

FILE 'DGENE' ENTERED AT 08:18:01 ON 29 JUN 2006
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FILE LAST UPDATED: 16 JUN 2006 <20060616/UP>

DGENE CURRENTLY CONTAINS 7,951,482 BIOSEQUENCES

>>> ONLINE THESAURUS AVAILABLE IN /PACO <<<

>>> DOWNLOAD THE DGENE WORKSHOP MANUAL:

http://www.stn-international.de/training_center/bioseq/dgene_wm.pdf

>>> DOWNLOAD COMPLETE DGENE HELP AS PDF:

http://www.stn-international.de/training_center/bioseq/dgene_help.pdf <<<

>>> DOWNLOAD DGENE BLAST/GETSIM FREQUENTLY ASKED QUESTIONS:

<http://www.stn-international.de/service/faq/dgenefaq.pdf> <<<

=> file pctfull

COST IN U.S. DOLLARS

SINCE FILE

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FULL ESTIMATED COST

1.22

1.43

FILE 'PCTFULL' ENTERED AT 08:18:10 ON 29 JUN 2006

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FILE LAST UPDATED: 27 JUN 2006 <20060627/UP>

MOST RECENT UPDATE WEEK: 200625 <200625/EW>

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SEE

<http://www.stn-international.de/stndatabases/details/ipc-reform.html> >>>

>>> FOR CHANGES IN PCTFULL PLEASE SEE HELP CHANGE

(last updated April 10, 2006) <<<

>>> NEW PRICES IN PCTFULL AS OF 01 JULY 2006. FOR DETAILS,

PLEASE SEE HELP COST <<<

=> s boropro or proboro or valboropro

37 BOROPRO

1 BOROPROS

37 BOROPRO

(BOROPRO OR BOROPROS)

1 PROBORO

5 VALBOROPRO

L1 39 BOROPRO OR PROBORO OR VALBOROPRO

=> s antibod? and l1

88922 ANTIBOD?

L2 24 ANTIBOD? AND L1

=> s additive or synerg? or enhanc?

61194 ADDITIVE

86645 ADDITIVES

117711 ADDITIVE

(ADDITIVE OR ADDITIVES)

36272 SYNERG?

295082 ENHANC?

L3 357416 ADDITIVE OR SYNERG? OR ENHANC?

```
=> s 13 and 12
L4          22 L3 AND L2

=> s 14 not py>2001
          518014 PY>2001
L5          12 L4 NOT PY>2001

=> s 14 not py>2000
          616501 PY>2000
L6          10 L4 NOT PY>2000

=> s 16 and cd20
          2487 CD20
L7          0 L6 AND CD20

=> s 16 and lymphoma
          15114 LYMPHOMA
          7723 LYMPHOMAS
          17697 LYMPHOMA
              (LYMPHOMA OR LYMPHOMAS)
L8          3 L6 AND LYMPHOMA

=> d ibib 1-3
```

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L8      ANSWER 1 OF 3      PCTFULL  COPYRIGHT 2006 Univentio on STN
ACCESSION NUMBER:      1999017799 PCTFULL  ED 20020515
TITLE (ENGLISH):      CYTOPLASMIC DIPEPTIDYLPEPTIDASE IV FROM HUMAN T-CELLS
TITLE (FRENCH):      DIPEPTIDYLPEPTIDASE IV CYTOPLASMIQUE PROVENANT DE
                      LYMPHOCYTES T D'ORIGINE HUMAINE
INVENTOR(S):      BOEHRINGER INGELHEIM PHARMACEUTICALS, INC.;
                      HUBER, Brigitte, T.;
                      UNDERWOOD, Robert;
                      KABCENELL, Alisa, K.;
                      SNOW, Roger, J.
PATENT ASSIGNEE(S):      TRUSTEES OF TUFTS COLLEGE ET AL.
LANGUAGE OF PUBL.:      English
DOCUMENT TYPE:      Patent
PATENT INFORMATION:
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NUMBER	KIND	DATE
WO 9917799	A1	19990415

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DESIGNATED STATES
W:      AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE
                      ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC
                      LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU
                      SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW GH GM
                      KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE
                      CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ
                      CF CG CI CM GA GN GW ML MR NE SN TD TG

APPLICATION INFO.:      WO 1998-US20968      A      19981006
PRIORITY INFO.:      US 1997-08/944,265      19971006
```

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L8      ANSWER 2 OF 3      PCTFULL  COPYRIGHT 2006 Univentio on STN
ACCESSION NUMBER:      1999016864 PCTFULL  ED 20020515
TITLE (ENGLISH):      STIMULATION OF HEMATOPOIETIC CELLS IN VITRO
TITLE (FRENCH):      STIMULATION DE CELLULES HEMATOPOIETIQUES IN VITRO
INVENTOR(S):      BACHOVCHIN, William;
                      WALLNER, Barbara
PATENT ASSIGNEE(S):      POINT THERAPEUTICS, INC.
LANGUAGE OF PUBL.:      English
DOCUMENT TYPE:      Patent
PATENT INFORMATION:
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NUMBER	KIND	DATE
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WO 9916864 A1 19990408

DESIGNATED STATES
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE
ES FI GB GD GE GH GM HR HU ID IL IS JP KE KG KP KR KZ
LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO
RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW GH
GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT
BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF
BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

APPLICATION INFO.: WO 1998-US20343 A 19980929
PRIORITY INFO.: US 1997-60/060,306 19970929

L8 ANSWER 3 OF 3 PCTFULL COPYRIGHT 2006 Univentio on STN
ACCESSION NUMBER: 1998024474 PCTFULL ED 20020514
TITLE (ENGLISH): INHIBITION OF INVASIVE REMODELLING
TITLE (FRENCH): INHIBITION DU REMODELAGE INVASIF
INVENTOR(S): LUND, Leif, Roge;
DANO, Keld;
STEPHENS, Ross;
BRueNNER, Nils;
SOLBERG, Helene;
HOLST-HANSEN, Claus;
NIELSEN, John, Romer

PATENT ASSIGNEE(S): FONDEN TIL FREMME AF EKSPERIMENTEL CANCERFORSKNING;
LUND, Leif, Roge;
DANO, Keld;
STEPHENS, Ross;
BRueNNER, Nils;
SOLBERG, Helene;
HOLST-HANSEN, Claus;
NIELSEN, John, Romer

LANGUAGE OF PUBL.: English
DOCUMENT TYPE: Patent
PATENT INFORMATION:

NUMBER	KIND	DATE
WO 9824474	A1	19980611

DESIGNATED STATES
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE
ES FI GB GE GH HU ID IL IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE
SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW GH KE LS
MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH DE
DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI
CM GA GNML MR NE SN TD TG

APPLICATION INFO.: WO 1997-DK555 A 19971208
PRIORITY INFO.: DK 1996-1402/96 19961206

=> d kwic 1-2

L8 ANSWER 1 OF 3 PCTFULL COPYRIGHT 2006 Univentio on STN

DETD . . . in therapy in which death of certain cells is therapeutically desirable. For example, in some T-cell neoplastic diseases, e.g., certain leukemias and lymphomas, it may be desirable to de-protect the cancerous T-cells from endogenous DPIVb, by inhibiting the enzyme and thus promoting the death. . .

The purified DPIVb of the invention can also be used to make antibodies (polyclonal, monoclonal, or recombinant) using conventional

methods, involving immunization of, e.g., rabbits, mice, or human volunteers.

The antibodies can be used in standard ELISA assays to measure DPIVb levels in patients being tested for diseases which potentially involve increased. . .

We observed a striking increase in the number of dead cells in cultures containing the L-isomer of Val-boroPro (VbP), an inhibitor of dipeptidyl peptidase IV (DPPIV), compared to cultures containing media alone or the inactive D-isomer of the inhibitor, d-Val-d-boroPro--a toxicity control.

Use as TheraDeutic
Because the purified DPIVb enzyme of the invention is protective of death in normal resting human T-cells, it can be administered therapeutically to patients in need of immune system enhancement, and in particular protection of clinically important T-cell subsets such as CD4' cells. Such patients include 1 5 AIDS patients whose CD4'. . .

Antibodies Directed against DPIVb
The purified DPIVb of the invention, or fragments thereof, can be used to generate polyclonal or monoclonal antibodies specific for DPIVb, using conventional techniques. Such antibodies can be used in any of the many known conventional immunoassay formats to measure DPIVb levels in biological samples, e.g., samples of. . .

CLMEN 5 An antibody specific for DPIVb.

L8 ANSWER 2 OF 3 PCTFULL COPYRIGHT 2006 Univentio on STN

DETD . . . thymocytes in vitro. Other binding molecules which selectively bind to DPIV and have the ability to stimulate hematopoietic cells include monoclonal antibodies, polyclonal antibodies and fragments of the foregoing which are capable of. (1) binding to DPIV, and (2) stimulating hematopoietic cells and/or thymocytes in. . .
well were incubated in 96 microtiter plates in CellGro Iscove's Modified Dulbecco's Medium (IMDM) and with or without (control) the indicated concentrations of Pro-boroPro for 4 days. At the end of this incubation period, the cells were counted under the microscope. The cultures without Pro-boroPro contained 10,000 cells at the end of 4 days. The cultures containing Pro-boroPro had 53,000 cells at 10⁻⁶M, 38,000 cells at 10⁻⁷M and 42,000 cells at 10⁻⁸M. The cultures containing a growth factor mix (GF). . . 2
Umbilical cord blood cells were incubated under essentially the same conditions as described in the legend to figure 1, except that Val-boroPro was used as

stimulant at the indicated concentrations. After 4 day incubation.

A: Bulk Umbilical Cord Blood; Total Cell Counts. Control culture: 0.2×10^6 cells;
Growth factors 5×10^6 cells; Val-boroPro: R106 (10^{-6} M); R106 (10^{-8} M); 4×10^6 (10^{-6} M).

coupled beads
for positive selection. Cell preparation contained 98% CD34+ cells.
After 4 days of incubation the culture containing 10^{-6} M Val-boroPro contained 8.5×10^6 cells, compared to 0.6×10^6 cells in the control and 4×10^6 cells in the incubation with growth.

C: Percent of CD34+ cells remaining after 4 day culture: Cultures incubated with Val-boroPro contained between 10 and 15% of CD34+ cells after 4 day culture. Cultures incubated with Growth Factors had only 4% of CD34+ cells remaining (panel b). This indicated that Val-boroPro has a growth stimulatory effect on CD34+ cells in addition to an effect on the differentiation of CD34+ cells into mature peripheral blood cells. This is supported by the observation that culturing these CD34+ cells in the presence of Val-boroPro and growth factors does not change the % CD34+ cells in the culture from the percentage seen with Val-boroPro alone, although the total number of cell in this combined culture had increased to 55×10^6 cells as compared to 8.5×10^6 cells in the incubation with Val-boroPro alone (panel a).

Dimerization of Lys-boroPro (homoconjugate) dramatically increases the stimulation of bone marrow cell growth when compared to the effect of the monomeric form of Lys-boroPro.

Cultures were set up as described in the legend to Figure I except that Lys-boroPro and the homoconjugate were used, and incubated for 4 days.

Figure 4
Bone marrow cells were incubated as described in Figure I except that Val-boroPro and the homoconjugate were used in a 4 day culture.

A: Val-boroPro gave a similar expansion of bone marrow cells as the growth factor mix (GF), while the dimer more than doubled the.

B: (panel a): Isolated CD34+ cells (98% purity) incubated with Val-boroPro gave up to 20 fold increase in stimulation of cellular growth compared to an 18 fold increase with growth factors over that.

(panel b): Percent of CD34+ cells remaining in culture after a 4 day incubation period: control 63%; GF 5%; Val-boroPro, 43%; homodimer 10%.

a number of different methods. The most widely used is a positive immunological selection based on binding of these cells to anti-CD34-antibodies immobilized on a solid support (Cellpro, Baxter). Other selection methods include negative selection where all cells not expressing CD34 are isolated away. . .

. . .
500 ng/ml. The optimum concentration of each growth factor has to be determined for individual culture conditions since some growth factors act synergistically with other growth factors. As noted above, the methods of the invention exclude exogenously added cytokines and, instead, utilize DPIV inhibitors to. . .

. . .
by observing a reduction in DPIV enzymatic activity following exposure to the non-active site binding agent. Exemplary non-active site binding agents include antibodies to DPIV and fragments thereof which selectively bind to DPIV in a manner that results in the ability of the binding. . .

. . .
PCT/GB94/02615, DPIV-Serine Protease Inhibitors, Applicant Ferring V.V. (Ferring). Representative examples of the foregoing inhibitors are described below and include the transition-state analog-based inhibitors Xaa-boroPro, include Lys-BoroPro, Pro-BoroPro and Ala-BoroPro in which boroPro refers to the analog of proline in which the carboxylate group (COOH) is replaced with a boronyl group [B(OH)₂]. Alternative active-site. . .

. . .
the ability of the Val-boroProline compound to bind to CD26. In a most preferred embodiment, the compound of the invention is Val-boroPro (also referred to as PT-100). Because of the chiral carbon atoms present on the amino acid residues and on the carbon attached to the boron atom, Val-

boroPro can exist in multiple isomeric forms: (a) L-Val-S-boroPro, (b) L-Val-R-boroPro, (c) D-Val-S-boroPro, and (d) D-Val-R-boroPro. More preferably, the compound is L-Val-S-

boroPro or L-Val-R-boroPro. In an analogous manner, the other boroProline compounds of the invention can exist in multiple isomeric forms; however, in general, the forms in which each amino acid chiral center has an L- configuration and the boroPro is in the R or S configuration are the preferred forms of the compounds.

Thus, the invention provides an improved method which synergistically combines hematopoietic cell stimulation with antigen-specific T cell expansion ex vivo. This would be therapeutic for eliciting immune responses against residual tumor cells, metastatic cells, or to enhance the anti-tumor T cell activity in allogeneic transplants. It can also be used for ex vivo expansion of peripheral memory T. . .

skin, breast, cervix, uteri, uterus, ovary, bladder, kidney, brain and other parts of the nervous system, thyroid, prostate, testes, Hodgkin's disease, non-Hodgkin's lymphoma, multiple myeloma and leukemia. Viral proteins associated with tumors would be those from the classes of viruses noted above. Antigens characteristic of. . .

Specific examples of tumor antigens include: proteins such as Ig-idiotype of B cell lymphoma, mutant cyclin-dependent kinase 4 of melanoma, Pmel-1 7 (gp I 00) of melanoma, MART- I (Melan-A) of melanoma, p I. . .

IO, CD26, CD28, CD40, CD44, CD45, B7.1 and B7
According to yet other embodiments, the second targeting moiety is an antibody or antibody fragment that selectively binds to an epitope expressed on the cell surface. The epitope can be a portion of any of the. . .

inhibitor inhibits such DPIV enzymatic activity. Preferably, such binding agents are isolated polypeptides which selectively bind the DPIV. Isolated binding polypeptides include antibodies and fragments of antibodies (e.g. Fab, F(ab)2, Fd and antibody fragments which include a CDR3 region which binds selectively to the DPIV). Preferred isolated binding polypeptides are those that bind to an. . .

The invention, therefore, involves the use of antibodies or fragments of antibodies which have the ability to selectively bind to DPIV and stimulate hematopoietic cells and/or thymocytes under the conditions disclosed herein. Antibodies include polyclonal and monoclonal antibodies, prepared according to conventional methodology.

Significantly, as is well-known in the art, only a small portion of an antibody molecule, the paratope, is involved in the binding of the antibody to its epitope (see, in general, Clark, W.R. (1986) The Experimental Foundations of Modern Immunology Wiley & Sons, Inc., New York; Roitt, 1.. . Oxford). The pFc' and Fc regions, for example, are effectors of the complement cascade but are not involved in antigen binding. An antibody from which the pFc' region has been enzymatically cleaved, or which has been produced without the pFc' region, designated an F(ab) fragment, retains both of the antigen binding sites of an intact antibody. Similarly, an antibody from which the Fc region has been enzymatically cleaved, or which has been produced without the Fc region, designated an Fab fragment, retains one of the antigen binding sites of an intact antibody molecule. Fab fragments consist of a covalently bound antibody light chain and a portion of the antibody heavy chain denoted Fd. The Fd fragments

are the major determinant of antibody specificity (a single Fd fragment may be associated with up to ten different light chains without altering antibody specificity) and Fd fragments retain epitope-binding ability in isolation.

Within the antigen-binding portion of an antibody, as is well-known in the art, there are complementarity determining regions (CDRs), which directly interact with the epitope of the antigen, and. . .

The CDRs, and in particular the CDR3 regions, and more particularly the heavy chain CDR3, are largely responsible for antibody specificity.

It is now well-established in the art that the non-CDR regions of a mammalian

antibody may be replaced with similar regions of conspecific or heterospecific antibodies while retaining the epitopic specificity of the original antibody. This is most clearly manifested in the development and use of humanized antibodies in which non-human CDRs are covalently joined to human FR and/or Fc/pFc' regions to produce a functional

antibody. Thus, for example, PCT International Publication Number WO 92/04381 teaches the production and use of humanized murine RSV antibodies in which at least a portion of the murine FR regions have been replaced by FR regions of human origin. Such antibodies, including fragments of intact antibodies with antigen-binding ability, are often referred to as chimeric antibodies.

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to one of ordinary skill in the art, the present invention also provides for F(abl, Fab, Fv and Fd fragments; chimeric antibodies in which the Fe and/or FR and/or CDR1 and/or CDR2 and/or light chain CDR3 regions have been replaced by homologous human or non-human sequences; chimeric F(ablfragment antibodies in which the FR and/or CDRI and/or CDR2 and/or light chain CDR3 regions have been replaced by homologous human or non-human sequences; chimeric Fab fragment antibodies in which the FR and/or CDRI and/or CDR2 and/or light chain CDR3 regions have been replaced by homologous human or non-human sequences; and chimeric Fd fragment antibodies in which the FR and/or CDR1 and/or CDR2 regions have been replaced by homologous human or non-human sequences. The present invention also includes so-called single chain antibodies.

. . .
and type that bind specifically to DPIV and inhibit its functional activity. These polypeptides may be derived also from sources other than antibody technology. For example, such polypeptide binding agents can be provided by degenerate peptide libraries which can be readily prepared in solution,. . .
. . .

the matrix permits covalent coupling to free amino groups. A polystyrene derivatized to carry carboxylate groups can be covalently attached directly to Lys-boroPro through coupling to the free E amino group of the Lys side chain, or through a spacer linker which has a free amino group. Alternatively, a polystyrene derivatized to carry an amino group can be attached to, for example, Lys-boroPro through coupling via a spacer linker containing two carboxylate groups, one to couple to the F amino group of Lys-boroPro, the other to the amino group of the amino-derivatized polystyrene.

. . .
the attachment of the compounds of the invention to insoluble matrices. Biotin can easily be attached to the E amino group of Lys-boroPro for example and the resulting conjugate will adhere with high affinity to avidin or strepavidin. A wide assortment of insolubilized derivatives of. . .

. . .
well or 24 well microtiter plates) at 104 cells/ml in CellGro Iscove's Modified Dulbecco's medium (Mediatech) containing kanamycin (5ug/ml), desired concentration of Xaa-boroPro or other compound of the invention, and the absence or presence of Giant Cell Tumor-Conditioned Medium (GCT-CM, Origen) as source of growth factors. Xaa-boroPro or other compounds of the invention should be diluted to medium and added to culture only after cells are in culture tube.

CLMEN 5 The method of claim 1, wherein the inhibitor of DPIV is selected from the group consisting of a Lys-boroPro monomer, a Pro-boroPro monomer, a Val-boroPro monomer and a Lys-boroPro conjugate.

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(FILE 'HOME' ENTERED AT 08:17:16 ON 29 JUN 2006)

FILE 'DGENE' ENTERED AT 08:18:01 ON 29 JUN 2006

FILE 'PCTFULL' ENTERED AT 08:18:10 ON 29 JUN 2006

L1 39 S BOROPRO OR PROBORO OR VALBOROPRO
L2 24 S ANTIBOD? AND L1
L3 357416 S ADDITIVE OR SYNERG? OR ENHANC?
L4 22 S L3 AND L2
L5 12 S L4 NOT PY>2001
L6 10 S L4 NOT PY>2000
L7 0 S L6 AND CD20
L8 3 S L6 AND LYMPHOMA

=> s l4 and CD20

2487 CD20

L9 2 L4 AND CD20

=> d ibib 1-2

L9 ANSWER 1 OF 2 PCTFULL COPYRIGHT 2006 Univentio on STN
 ACCESSION NUMBER: 2004004661 PCTFULL ED 20040122 EW 200403
 TITLE (ENGLISH): BOROPROLINE COMPOUND COMBINATION THERAPY
 TITLE (FRENCH): POLYTHERAPIE A BASE DE COMPOSES DE BOROPROLINE
 INVENTOR(S): ADAMS, Sharlene, 45 Rosemont Avenue, Waltham, MA 02451, US;
 MILLER, Glenn, T., 63 Bearhill Road, Merrimac, MA 01860, US;
 JESSON, Michael, I., 19 Plain Street, Hopedale, MA 01747, US;
 JONES, Barry, 80 Wndell, No.3, Cambridge, MA 02138, US
 PATENT ASSIGNEE(S): POINT THERAPEUTICS, INC., 125 Summer Street, Suite 1840, Boston, MA 02111, US [US, US]
 AGENT: TREVISAN, Maria, A.\$, Wolf, Greenfield & Sacks, P.C., 600 Atlantic Avenue, Boston, MA 02210\$, US
 LANGUAGE OF FILING: English
 LANGUAGE OF PUBL.: English
 DOCUMENT TYPE: Patent
 PATENT INFORMATION:

NUMBER	KIND	DATE

WO 2004004661	A2	20040115

DESIGNATED STATES

W:

AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR
 CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID
 IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD
 MG MK MN MW MX MZ NI NO NZ OM PG PH PL PT RO RU SC SD
 SE SG SK SL SY TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA
 ZM ZW

RW (ARIPO):

GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW

RW (EAPO):

AM AZ BY KG KZ MD RU TJ TM

RW (EPO):

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU
 MC NL PT RO SE SI SK TR

RW (OAPI):

BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

APPLICATION INFO.:

WO 2003-US21547 A 20030709

PRIORITY INFO.:

US 2002-60/394,856 20020709

US 2002-60/414,978 20021001

US 2003-60/466,435 20030428

L9 ANSWER 2 OF 2 PCTFULL COPYRIGHT 2006 Univentio on STN
 ACCESSION NUMBER: 2004004658 PCTFULL ED 20040122 EW 200403
 TITLE (ENGLISH): METHODS AND COMPOSITIONS RELATING TO ISOLEUCINE
 BOROPROLINE COMPOUNDS
 TITLE (FRENCH): PROCEDES ET COMPOSITIONS AYANT TRAIT A DES COMPOSES
 D'ISOLEUCINE BOROPROLINE
 INVENTOR(S): ADAMS, Sharlene, 45 Rosemont Avenue, Waltham, MA 02451, US;
 MILLER, Glenn, T., 63 Bearhill Road, Merrimac, MA 01860, US;
 JESSON, Michael, I., 19 Plain Street, Hopedale, MA 01747, US;
 JONES, Barry, 80 Wendell Street, #3, Cambridge, MA 02138, US
 PATENT ASSIGNEE(S): POINT THERAPEUTICS, INC., 125 Summer Street, Suite 1840, Boston, MA 02111, US [US, US]
 AGENT: TREVISAN, Maria, A.\$, Wolf, Greenfield & Sacks, P.C., 600 Atlantic Avenue, Boston, MA 02210\$, US
 LANGUAGE OF FILING: English
 LANGUAGE OF PUBL.: English
 DOCUMENT TYPE: Patent
 PATENT INFORMATION:

NUMBER	KIND	DATE

DESIGNATED STATES WO 2004004658 A2 20040115

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR
 CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID
 IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD
 MG MK MN MW MX MZ NI NO NZ OM PG PH PL PT RO RU SC SD
 SE SG SK SL SY TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA
 ZW

RW (ARIPO): GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
 RW (EAPO): AM AZ BY KG KZ MD RU TJ TM
 RW (EPO): AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU
 MC NL PT RO SE SI SK TR
 RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

APPLICATION INFO.: WO 2003-US21405 A 20030709
 PRIORITY INFO.: US 2002-60/394,856 20020709
 US 2002-60/414,978 20021001
 US 2003-60/466,435 20030428

=> s anti () CD20
 177657 ANTI
 177 ANTIS
 177694 ANTI
 (ANTI OR ANTIS)
 2487 CD20
 L10 1049 ANTI (W) CD20

=> d his

(FILE 'HOME' ENTERED AT 08:17:16 ON 29 JUN 2006)

FILE 'DGENE' ENTERED AT 08:18:01 ON 29 JUN 2006

FILE 'PCTFULL' ENTERED AT 08:18:10 ON 29 JUN 2006

L1 39 S BOROPRO OR PROBORO OR VALBOROPRO
 L2 24 S ANTIBOD? AND L1
 L3 357416 S ADDITIVE OR SYNERG? OR ENHANC?
 L4 22 S L3 AND L2
 L5 12 S L4 NOT PY>2001
 L6 10 S L4 NOT PY>2000
 L7 0 S L6 AND CD20
 L8 3 S L6 AND LYMPHOMA
 L9 2 S L4 AND CD20
 L10 1049 S ANTI () CD20

=> s l10 and l4
 L11 2 L10 AND L4

=> d ibib 1-2

L11 ANSWER 1 OF 2 PCTFULL COPYRIGHT 2006 Univentio on STN
 ACCESSION NUMBER: 2004004661 PCTFULL ED 20040122 EW 200403
 TITLE (ENGLISH): BOROPROLINE COMPOUND COMBINATION THERAPY
 TITLE (FRENCH): POLYTHERAPIE A BASE DE COMPOSES DE BOROPROLINE
 INVENTOR(S): ADAMS, Sharlene, 45 Rosemont Avenue, Waltham, MA 02451,
 US;
 MILLER, Glenn, T., 63 Bearhill Road, Merrimac, MA
 01860, US;
 JESSON, Michael, I., 19 Plain Street, Hopedale, MA
 01747, US;
 JONES, Barry, 80 Wndell, No.3, Cambridge, MA 02138, US
 PATENT ASSIGNEE(S): POINT THERAPEUTICS, INC., 125 Summer Street, Suite
 1840, Boston, MA 02111, US [US, US]
 AGENT: TREVISAN, Maria, A.\$, Wolf, Greenfield & Sacks, P.C.,

600 Atlantic Avenue, Boston, MA 02210\$, US
LANGUAGE OF FILING: English
LANGUAGE OF PUBL.: English
DOCUMENT TYPE: Patent
PATENT INFORMATION:

	NUMBER	KIND	DATE
DESIGNATED STATES	WO 2004004661	A2	20040115
W:	AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW		
RW (ARIPO):	GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW		
RW (EAPO):	AM AZ BY KG KZ MD RU TJ TM		
RW (EPO):	AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE SI SK TR		
RW (OAPI):	BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG		
APPLICATION INFO.:	WO 2003-US21547	A	20030709
PRIORITY INFO.:	US 2002-60/394,856		20020709
	US 2002-60/414,978		20021001
	US 2003-60/466,435		20030428

L11 ANSWER 2 OF 2 PCTFULL COPYRIGHT 2006 Univentio on STN
ACCESSION NUMBER: 2004004658 PCTFULL ED 20040122 EW 200403
TITLE (ENGLISH): METHODS AND COMPOSITIONS RELATING TO ISOLEUCINE
BOROPROLINE COMPOUNDS
TITLE (FRENCH): PROCEDES ET COMPOSITIONS AYANT TRAIT A DES COMPOSES
D'ISOLEUCINE BOROPROLINE
INVENTOR(S): ADAMS, Sharlene, 45 Rosemont Avenue, Waltham, MA 02451,
US;
MILLER, Glenn, T., 63 Bearhill Road, Merrimac, MA
01860, US;
JESSON, Michael, I., 19 Plain Street, Hopedale, MA
01747, US;
JONES, Barry, 80 Wendell Street, #3, Cambridge, MA
02138, US
PATENT ASSIGNEE(S): POINT THERAPEUTICS, INC., 125 Summer Street, Suite
1840, Boston, MA 02111, US [US, US]
AGENT: TREVISAN, Maria, A.\$, Wolf, Greenfield & Sacks, P.C.,
600 Atlantic Avenue, Boston, MA 02210\$, US
LANGUAGE OF FILING: English
LANGUAGE OF PUBL.: English
DOCUMENT TYPE: Patent
PATENT INFORMATION:

	NUMBER	KIND	DATE
DESIGNATED STATES	WO 2004004658	A2	20040115
W:	AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZW		
RW (ARIPO):	GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW		
RW (EAPO):	AM AZ BY KG KZ MD RU TJ TM		
RW (EPO):	AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE SI SK TR		
RW (OAPI):	BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG		
APPLICATION INFO.:	WO 2003-US21405	A	20030709
PRIORITY INFO.:	US 2002-60/394,856		20020709

US 2002-60/414,978 20021001
US 2003-60/466,435 20030428

=> s boroproline
L12 28 BOROPROLINE

=> s l12 and l10
L13 2 L12 AND L10

=> d ibib 1-2

L13 ANSWER 1 OF 2 PCTFULL COPYRIGHT 2006 Univentio on STN
ACCESSION NUMBER: 2004004661 PCTFULL ED 20040122 EW 200403
TITLE (ENGLISH): BOROPROLINE COMPOUND COMBINATION THERAPY
TITLE (FRENCH): POLYTHERAPIE A BASE DE COMPOSES DE BOROPROLINE
INVENTOR(S): ADAMS, Sharlene, 45 Rosemont Avenue, Waltham, MA 02451,
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JESSON, Michael, I., 19 Plain Street, Hopedale, MA
01747, US;
JONES, Barry, 80 Wndell, No.3, Cambridge, MA 02138, US
PATENT ASSIGNEE(S): POINT THERAPEUTICS, INC., 125 Summer Street, Suite
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600 Atlantic Avenue, Boston, MA 02210\$, US
LANGUAGE OF FILING: English
LANGUAGE OF PUBL.: English
DOCUMENT TYPE: Patent
PATENT INFORMATION:

NUMBER	KIND	DATE

WO 2004004661	A2	20040115

DESIGNATED STATES
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AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR
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SE SG SK SL SY TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA
ZM ZW

RW (ARIPO): GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW

RW (EAPO): AM AZ BY KG KZ MD RU TJ TM

RW (EPO): AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU
MC NL PT RO SE SI SK TR

RW (OAPI): BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

APPLICATION INFO.: WO 2003-US21547 A 20030709
PRIORITY INFO.: US 2002-60/394,856 20020709
US 2002-60/414,978 20021001
US 2003-60/466,435 20030428

L13 ANSWER 2 OF 2 PCTFULL COPYRIGHT 2006 Univentio on STN
ACCESSION NUMBER: 2004004658 PCTFULL ED 20040122 EW 200403
TITLE (ENGLISH): METHODS AND COMPOSITIONS RELATING TO ISOLEUCINE
BOROPROLINE COMPOUNDS
TITLE (FRENCH): PROCEDES ET COMPOSITIONS AYANT TRAIT A DES COMPOSES
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INVENTOR(S): ADAMS, Sharlene, 45 Rosemont Avenue, Waltham, MA 02451,
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MILLER, Glenn, T., 63 Bearhill Road, Merrimac, MA
01860, US;
JESSON, Michael, I., 19 Plain Street, Hopedale, MA
01747, US;
JONES, Barry, 80 Wendell Street, #3, Cambridge, MA

PATENT ASSIGNEE(S): 02138, US
 POINT THERAPEUTICS, INC., 125 Summer Street, Suite
 1840, Boston, MA 02111, US [US, US]
 AGENT: TREVISAN, Maria, A.\$, Wolf, Greenfield & Sacks, P.C.,
 600 Atlantic Avenue, Boston, MA 02210\$, US
 LANGUAGE OF FILING: English
 LANGUAGE OF PUBL.: English
 DOCUMENT TYPE: Patent
 PATENT INFORMATION:

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DESIGNATED STATES			
W:	AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZW		
RW (ARIPO):	GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW		
RW (EAPO):	AM AZ BY KG KZ MD RU TJ TM		
RW (EPO):	AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE SI SK TR		
RW (OAPI):	BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG		
APPLICATION INFO.:	WO 2003-US21405	A	20030709
PRIORITY INFO.:	US 2002-60/394,856		20020709
	US 2002-60/414,978		20021001
	US 2003-60/466,435		20030428

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 680860 B
 222708 CELL
 192476 CELLS
 252846 CELL
 (CELL OR CELLS)

L14 25810 B (W) CELL

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(FILE 'HOME' ENTERED AT 08:17:16 ON 29 JUN 2006)

FILE 'DGENE' ENTERED AT 08:18:01 ON 29 JUN 2006

FILE 'PCTFULL' ENTERED AT 08:18:10 ON 29 JUN 2006

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 L5 12 S L4 NOT PY>2001
 L6 10 S L4 NOT PY>2000
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 L8 3 S L6 AND LYMPHOMA
 L9 2 S L4 AND CD20
 L10 1049 S ANTI () CD20
 L11 2 S L10 AND L4
 L12 28 S BOROPROLINE
 L13 2 S L12 AND L10
 L14 25810 S B () CELL

=> s l14 and l2

L15 9 L14 AND L2

=> s l2 and CD20

2487 CD20
L16 2 L2 AND CD20

=> s 115 not py>2001
518014 PY>2001
L17 6 L15 NOT PY>2001

=> d ibib 1-6

L17 ANSWER 1 OF 6 PCTFULL COPYRIGHT 2006 Univentio on STN
ACCESSION NUMBER: 2001016301 PCTFULL ED 20020828
TITLE (ENGLISH): QUIESCENT CELL DIPEPTIDYL PEPTIDASE: A NOVEL
CYTOPLASMIC SERINE PROTEASE
TITLE (FRENCH): DIPEPTIDYL PEPTIDASE DE CELLULE QUIESCENTE: UNE
NOUVELLE SERINE PROTEASE CYTOPLASMIQUE
INVENTOR(S): HUBER, Brigitte, T.;
UNDERWOOD, Robert, H.
PATENT ASSIGNEE(S): TUFTS UNIVERSITY;
HUBER, Brigitte, T.;
UNDERWOOD, Robert, H.
DOCUMENT TYPE: Patent
PATENT INFORMATION:

NUMBER	KIND	DATE

WO 2001016301	A1	20010308

DESIGNATED STATES
W: AU CA JP AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC
NL PT SE
APPLICATION INFO.: WO 2000-US24052 A 20000901
PRIORITY INFO.: US 1999-09/388,413 19990901

L17 ANSWER 2 OF 6 PCTFULL COPYRIGHT 2006 Univentio on STN
ACCESSION NUMBER: 1999017799 PCTFULL ED 20020515
TITLE (ENGLISH): CYTOPLASMIC DIPEPTIDYLPEPTIDASE IV FROM HUMAN T-CELLS
TITLE (FRENCH): DIPEPTIDYLPEPTIDASE IV CYTOPLASMIQUE PROVENANT DE
LYMPHOCYTES T D'ORIGINE HUMAINE
INVENTOR(S): BOEHRINGER INGELHEIM PHARMACEUTICALS, INC.;
HUBER, Brigitte, T.;
UNDERWOOD, Robert;
KABCENELL, Alisa, K.;
SNOW, Roger, J.
PATENT ASSIGNEE(S): TRUSTEES OF TUFTS COLLEGE ET AL.
LANGUAGE OF PUBL.: English
DOCUMENT TYPE: Patent
PATENT INFORMATION:

NUMBER	KIND	DATE

WO 9917799	A1	19990415

DESIGNATED STATES
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE
ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC
LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU
SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW GH GM
KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE
CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ
CF CG CI CM GA GN GW ML MR NE SN TD TG
APPLICATION INFO.: WO 1998-US20968 A 19981006
PRIORITY INFO.: US 1997-08/944,265 19971006

L17 ANSWER 3 OF 6 PCTFULL COPYRIGHT 2006 Univentio on STN
ACCESSION NUMBER: 1999016864 PCTFULL ED 20020515
TITLE (ENGLISH): STIMULATION OF HEMATOPOIETIC CELLS IN VITRO
TITLE (FRENCH): STIMULATION DE CELLULES HEMATOPOIETIQUES IN VITRO
INVENTOR(S): BACHOVCHIN, William;

PATENT ASSIGNEE(S): WALLNER, Barbara
LANGUAGE OF PUBL.: POINT THERAPEUTICS, INC.
DOCUMENT TYPE: English
PATENT INFORMATION: Patent

NUMBER	KIND	DATE
WO 9916864	A1	19990408

DESIGNATED STATES
W:

AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE
ES FI GB GD GE GH GM HR HU ID IL IS JP KE KG KP KR KZ
LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO
RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW GH
GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT
BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF
BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

APPLICATION INFO.: WO 1998-US20343 A 19980929
PRIORITY INFO.: US 1997-60/060,306 19970929

L17 ANSWER 4 OF 6 PCTFULL COPYRIGHT 2006 Univentio on STN
ACCESSION NUMBER: 1998050066 PCTFULL ED 20020514
TITLE (ENGLISH): POTENTIATION OF THE IMMUNE RESPONSE THROUGH DELIVERY OF
COMPOUNDS BINDING A CYTOPLASMIC DIPEPTIDASE
TITLE (FRENCH): POTENTIALISATION DE LA REPOSE IMMUNITAIRE PAR
PRODUCTION DE COMPOSES SE FIXANT A UNE DIPEPTIDASE
CYTOPLASMIQUE

INVENTOR(S): HUBER, Brigitte, T.;
SCHMITZ, Tracy;
UNDERWOOD, Robert

PATENT ASSIGNEE(S): TRUSTEES OF TUFTS COLLEGE
LANGUAGE OF PUBL.: English
DOCUMENT TYPE: Patent
PATENT INFORMATION:

NUMBER	KIND	DATE
WO 9850066	A1	19981112

DESIGNATED STATES
W:

AU CA JP AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC
NL PT SE

APPLICATION INFO.: WO 1998-US8838 A 19980430
PRIORITY INFO.: US 1997-8/852,395 19970507

L17 ANSWER 5 OF 6 PCTFULL COPYRIGHT 2006 Univentio on STN
ACCESSION NUMBER: 1998024474 PCTFULL ED 20020514
TITLE (ENGLISH): INHIBITION OF INVASIVE REMODELLING
TITLE (FRENCH): INHIBITION DU REMODELAGE INVASIF
INVENTOR(S): LUND, Leif, Roge;

DANO, Keld;
STEPHENS, Ross;
BRUENNER, Nils;
SOLBERG, Helene;
HOLST-HANSEN, Claus;
NIELSEN, John, Romer

PATENT ASSIGNEE(S): FONDEN TIL FREMME AF EKSPERIMENTEL CANCERFORSKNING;
LUND, Leif, Roge;
DANO, Keld;
STEPHENS, Ross;
BRUENNER, Nils;
SOLBERG, Helene;
HOLST-HANSEN, Claus;
NIELSEN, John, Romer

LANGUAGE OF PUBL.: English
DOCUMENT TYPE: Patent
PATENT INFORMATION:

	NUMBER	KIND	DATE

	WO 9824474	A1	19980611
DESIGNATED STATES			
W:	AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW GH KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG		
APPLICATION INFO.:	WO 1997-DK555	A	19971208
PRIORITY INFO.:	DK 1996-1402/96		19961206

L17 ANSWER 6 OF 6 PCTFULL COPYRIGHT 2006 Univentio on STN
 ACCESSION NUMBER: 1998000439 PCTFULL ED 20020514
 TITLE (ENGLISH): MULTIVALENT COMPOUNDS FOR CROSS-LINKING RECEPTORS AND
 USES THEREOF
 TITLE (FRENCH): COMPOSES MULTIVALENTS POUR LA RETICULATION DE
 RECEPTEURS ET UTILISATIONS ASSOCIES
 INVENTOR(S): BACHOVCHIN, William, W.
 PATENT ASSIGNEE(S): TRUSTEES OF TUFTS COLLEGE;
 BACHOVCHIN, William, W.
 LANGUAGE OF PUBL.: English
 DOCUMENT TYPE: Patent
 PATENT INFORMATION:

	NUMBER	KIND	DATE

	WO 9800439	A2	19980108
DESIGNATED STATES			
W:	AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN GH KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG		
APPLICATION INFO.:	WO 1997-US11279	A	19970627
PRIORITY INFO.:	US 1996-8/671,756		19960628
	US 1997-8/837,305		19970411

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L17 ANSWER 2 OF 6 PCTFULL COPYRIGHT 2006 Univentio on STN

DETD The purified DPlVb of the invention can also be used to make
 antibodies (polyclonal, monoclonal, or recombinant) using
 conventional
 methods, involving immunization of, e.g., rabbits, mice, or human
 volunteers.

The antibodies can be used in standard ELISA assays to measure
 DPlVb levels
 in patients being tested for diseases which potentially involve
 increased. . .

We observed a striking increase in the number of dead cells in
 cultures containing the L-isomer of Val-boroPro (VbP), an
 inhibitor of
 dipeptidyl peptidase IV (DPPIV), compared to cultures containing media
 alone
 or the inactive D-isomer of the inhibitor, d-Val-d-boroPro--a
 toxicity control.

Dead cells were apparent as early as 4 h after the addition of the L-isomer of VbP, with maximal death occurring. . . 24 h (about 70%). When subpopulations of PBMC were tested for susceptibility to VbP- induced death, we observed that CD 1 9' B cells and CD I I b' monocytes were resistant, while purified T-cells (CD4'/CD8') showed greater sensitivity than whole PBMC.

(44-biotin, Sigma), and phycoerythrin streptavidin, CD26' T cells were isolated by sorting with the anti-CD26 mAb 1F7 (C. Moninioto, Dana-Farber Cancer Inst.). B cells were isolated by selection with biotinyl-anti-CD 1 9 rnAb (D. Thorley Lawson, Tufts Univ.) And MACS microbeads (Miltenyl Biotec'). Sorted cell populations.

Antibodies Directed against DPIVb
The purified DPIVb of the invention, or fragments thereof, can be used to generate polyclonal or monoclonal antibodies specific for DPIVb, using conventional techniques. Such antibodies can be used in any of the many known conventional immunoassay formats to measure DPIVb levels in biological samples, e.g., samples of. . .

CLMEN 5 An antibody specific for DPIVb.

L17 ANSWER 3 OF 6 PCTFULL COPYRIGHT 2006 Univentio on STN

DETD . . . ability to proliferate and exhibit morphological characteristics specific for their lineages (such as macrophages, granulocytes, platelets, red blood cells, T cells and B cells). Stem cells and progenitor cells express CD34 on their surface while differentiated cells do not. Bone marrow includes stem cells as well as progenitor cells of the lymphoid (T and B cells), myeloid (granulocytes, macrophages) and erythroid (red blood cells) lineages.

thymocytes in vitro. Other binding molecules which selectively bind to DPIV and have the ability to stimulate hematopoietic cells include monoclonal antibodies, polyclonal antibodies and fragments of the foregoing which are capable of. (1) binding to DPIV, and (2) stimulating hematopoietic cells and/or thymocytes in. . .

well were incubated in 96 microtiter plates in CellGro Iscove's Modified Dulbecco's Medium (IMDM) and with or without (control)'the indicated concentrations of Pro-boroPro for 4 days. At the end of this incubation period, the cells were counted under the microscope. The cultures without Pro-boroPro contained 10,000 cells at the end of 4 days. The cultures containing Pro-boroPro had 53,000 cells at 10⁻⁶M, 38,000 cells at 10⁻⁷M and 42,000 cells at 10⁻⁸M. The cultures

containing a growth factor mix (GF). . . 2
Umbilical cord blood cells were incubated under essentially the same conditions as described in the legend to figure 1, except that Val-boroPro was used as stimulant at the indicated concentrations. After 4 day incubation.

A: Bulk Umbilical Cord Blood; Total Cell Counts. Control culture: 0.2×10^6 cells;
Growth factors 5×10^6 cells; Val-boroPro: R106 (10-6M); R106 (10-8M); 4×10^6 (10-'OM).

. . .
coupled beads
for positive selection. Cell preparation contained 98% CD34+ cells.
After 4 days of
incubation the culture containing I 0- M Val-boroPro contained 8.5×10^6 cells, compared to 0.6×10^6 cells in the control and 4×10^6 cells in the incubation with growth. . .

C: Percent of CD34+ cells remaining after 4 day culture: Cultures incubated with Val-boroPro contained between 10 and 15% of CD34+ cells after 4 day culture. Cultures incubated with Growth Factors had only 4% of CD34+ cells remaining (panel b). This indicated that Val-boroPro has a growth stimulatory effect on CD34+ cells in addition to an effect on the differentiation of CD34+ cells into mature peripheral blood cells. This is supported by the observation that culturing these CD34+ cells in the presence of Val-boroPro and growth factors does not change the % CD34+ cells in the culture from the percentage seen with Val-boroPro alone, although the total number of cell in this combined culture had increased to 55×10^6 cells as compared to 8.5×10^6 cells in the incubation with Val-boroPro alone (panel a).

Dimerization of Lys-boroPro (homoconjugate) dramatically increases the stimulation of bone marrow cell growth when compared to the effect of the monomeric form of Lys-boroPro.

Cultures were set up as described in the legend to Figure I except that Lys-boroPro and the homoconjugate were used, and incubated for 4 days.

Figure 4
Bone marrow cells were incubated as described in Figure I except that Val-boroPro and the homoconjugate were used in a 4 day culture.

A: Val-boroPro gave a similar expansion of bone marrow cells as the growth factor mix (GF), while the dinier more than doubled the. . .

B: (panel a): Isolated CD34+ cells (98% purity) incubated with Val-boroPro gave up to 20 fold increase in stimulation of cellular growth compared to an 18 fold increase with growth factors over that. . .

(panel b): Percent of CD34+ cells remaining in culture after a 4 day incubation
period: control 63%; GF 5%; Val-boroPro, 43%; homodimer 10%.

ability to proliferate and exhibit morphological characteristics specific for their lineages (such as macrophages, granulocytes, platelets, red blood cells, T cells and B cells). Bone marrow includes stem cells as well as progenitor cells of the lymphoid (T and B cells), myeloid (e.g., granulocytes, macrophages) and erythroid (red blood cells) lineages. Stem cells and progenitor cells express CD34 on their surface while differentiated. . .

a number of different methods. The most widely used is a positive immunological selection based on binding of these cells to anti-CD34-antibodies immobilized on a solid support (Cellpro, Baxter). Other selection methods include negative selection where all cells not expressing CD34 are isolated away. . .

by observing a reduction in DPIV enzymatic activity following exposure to the non-active site binding agent. Exemplary non-active site binding agents include antibodies to DPIV and fragments thereof which selectively bind to DPIV in a manner that results in the ability of the binding. . .

PCT/GB94/02615, DPIV-Serine Protease Inhibitors, Applicant Ferring V.V. (Ferring). Representative examples of the foregoing inhibitors are described below and include the transition-state analog-based inhibitors Xaa-boroPro, include Lys-BoroPro, Pro-BoroPro and Ala-BoroPro in which boroPro refers to the analog of proline in which the carboxylate group (COOH) is replaced with a boronyl group [B(OH)₂]. Alternative active-site. . .

the ability of the Val-boroProline compound to bind to CD26. In a most preferred embodiment, the compound of the invention is Val-boroPro (also referred to as PT-100). Because of the chiral carbon atoms present on the amino acid residues and on the carbon attached to the boron atom, Val-boroPro can exist in multiple isomeric forms: (a) L-Val-S-boroPro, (b) L-Val-R-boroPro, (c) D-Val-S-boroPro, and (d) D-Val-R-boroPro. More preferably, the compound is L-Val-S-boroPro or L-Val-R-boroPro. In an analogous manner, the other boroProline compounds of the invention can exist in multiple isomeric forms; however, in general, the forms in which each amino acid chiral center has an L- configuration and the boroPro is in the R or S configuration are the preferred forms of the compounds.

The preferred antigenic peptides are peptides that bind to a T cell surface receptor or a B cell surface receptor, e.g., TCR/CD3, CD2, CD4, CD8, CD 10, CD26, CD28, CD40, CD45, B7.1

and B7

Alternatively, the reactive moiety can be. . .

. . .
major histocompatibility complex
(MHC) molecule) which is present on the surface of a T cell or on the
surface of a B cell. In
certain embodiments, the second targeting moiety has a structure which
mimics the substrate
binding site of a protease that is present. . .

Specific examples of tumor antigens include: proteins such as
Ig-idiotype of B cell
lymphoma, mutant cyclin-dependent kinase 4 of melanoma, Pmel- 1 7 (gp I
00) of melanoma,
MART- I (Melan-A) of melanoma, p I. . .

. . .
that selectively
binds to a receptor that is expressed on the surface of a cell
(preferably a T cell or a B cell).

. . .
IO, CD26, CD28, CD40, CD44, CD45, B7.1 and B7
According to yet other embodiments, the second targeting moiety is an
antibody or antibody
fragment that selectively binds to an epitope expressed on the cell
surface. The epitope can
be a portion of any of the. . .

. . .
inhibitor inhibits such DPIV
enzymatic activity. Preferably, such binding agents are isolated
polypeptides which
selectively bind the DPIV. Isolated binding polypeptides include
antibodies and fragments
of antibodies (e.g. Fab, F(ab)2, Fd and antibody
fragments which include a CDR3 region
which binds selectively to the DPIV). Preferred isolated binding
polypeptides are those that
bind to an. . .

The invention, therefore, involves the use of antibodies or
fragments of antibodies
which have the ability to selectively bind to DPIV and stimulate
hematopoietic cells and/or
thymocytes under the conditions disclosed herein. Antibodies
include polyclonal and
monoclonal antibodies, prepared according to conventional
methodology.

Significantly, as is well-known in the art, only a small portion of an
antibody
molecule, the paratope, is involved in the binding of the
antibody to its epitope (see, in
general, Clark, W.R. (1986) The Experimental Foundations of Modern
Immunology Wiley &
Sons, Inc., New York; Roitt, L. . . . Oxford). The pFc' and Fc regions,
for example, are effectors of the complement
cascade but are not involved in antigen binding. An antibody
from which the pFc' region has
been enzymatically cleaved, or which has been produced without the pFc'
region, designated
an F(ab)1 fragment, retains both of the antigen binding sites of an intact
antibody. Similarly,
an antibody from which the Fc region has been enzymatically
cleaved, or which has been
produced without the Fc region, designated an Fab fragment, retains one

of the antigen binding sites of an intact antibody molecule. Fab fragments consist of a covalently bound

antibody light chain and a portion of the antibody heavy chain denoted Fd. The Fd fragments are the major determinant of antibody specificity (a single Fd fragment may be associated with up to ten different light chains without altering antibody specificity) and Fd fragments retain epitope-binding ability in isolation.

Within the antigen-binding portion of an antibody, as is well-known in the art, there are complementarity determining regions (CDRs), which directly interact with the epitope of the antigen, and. . .

The CDRs, and in particular the CDR3 regions, and more particularly the heavy chain CDR3, are largely responsible for antibody specificity.

It is now well-established in the art that the non-CDR regions of a mammalian

antibody may be replaced with similar regions of conspecific or heterospecific antibodies while retaining the epitopic specificity of the original antibody. This is most clearly manifested in the development and use of humanized antibodies in which non-human CDRs are covalently joined to human FR and/or Fc/pFc' regions to produce a functional

antibody. Thus, for example, PCT International Publication Number WO 92/04381 teaches the production and use of humanized murine RSV antibodies in which at least a portion of the murine FR regions have been replaced by FR regions of human origin. Such antibodies, including fragments of intact antibodies with antigen-binding ability, are often referred to as chimeric antibodies.

. . .
to one of ordinary skill in the art, the present invention also provides for F(abl, Fab, Fv and Fd fragments; chimeric antibodies in which the Fe and/or FR and/or CDR1 and/or CDR2 and/or light chain CDR3 regions have been replaced by homologous human or non-human sequences; chimeric F(ablfragment antibodies in which the FR and/or CDRI and/or CDR2 and/or light chain CDR3 regions have been replaced by homologous human or non-human sequences; chimeric Fab fragment antibodies in which the FR and/or CDRI and/or CDR2 and/or light chain CDR3 regions have been replaced by homologous human or non-human sequences; and chimeric Fd fragment antibodies in which the FR and/or CDR1 and/or CDR2 regions have been replaced by homologous human or non-human sequences. The present invention also includes so-called single chain antibodies.

. . .
and type that bind specifically to DPIV and inhibit its functional activity. These polypeptides may be derived also from

sources other than antibody technology. For example, such polypeptide binding agents can be provided by degenerate peptide libraries which can be readily prepared in solution, . . .

. . .
the matrix permits covalent coupling to free amino groups. A polystyrene derivatized to carry carboxylate groups can be covalently attached directly to Lys-boroPro through coupling to the free E amino group of the Lys side chain, or through a spacer linker which has a free amino group. Alternatively, a polystyrene derivatized to carry an amino group can be attached to, for example, Lys-boroPro through coupling via a spacer linker containing two carboxylate groups, one to couple to the F₁ amino group of Lys-boroPro, the other to the amino group of the amino-derivatized polystyrene.

. . .
the attachment of the compounds of the invention to insoluble matrices. Biotin can easily be attached to the E amino group of Lys-boroPro for example and the resulting conjugate will adhere with high affinity to avidin or strepavidin. A wide assortment of insolubilized derivatives of. . .

. . .
well or 24 well microtiter plates) at 104 cells/ml in CellGro Iscove's Modified Dulbecco's medium (Mediatech) containing kanamycin (5ug/ml), desired concentration of Xaa-boroPro or other compound of the invention, and the absence or presence of Giant Cell Tumor-Conditioned Medium (GCT-CM, Origen) as source of growth factors. Xaa-boroPro or other compounds of the invention should be diluted to medium and added to culture only after cells are in culture tube.

CLMEN 5 The method of claim 1, wherein the inhibitor of DPIV is selected from the group consisting of a Lys-boroPro monomer, a Pro-boroPro monomer, a Val-boroPro monomer and a Lys-boroPro conjugate.

L17 ANSWER 4 OF 6 PCTFULL COPYRIGHT 2006 Univentio on STN

DETD . . . T-cell stimulatory effects of two inhibitory compounds used according to the invention (date of experiment: 3/9/95; patient id no: 1 655185; CD4 antibody count:760; and number of cells/well: 0.4 x 10⁶).

. . .
invention in lymphocytes of HIV-infected patients, compared to treatment using two control compounds (date of experiment: 3/15/95; patient id no: 1227604; CD4 antibody count: 230; number of cells/well: 0.16 x 10⁶; and 1/2 area of a 96 well plate).

. . .
invention in lymphocytes of HIV-infected patients, compared to treatment using two control compounds

(date of experiment 3/23/95; patient id no. 1586496; CD4 antibody count: 830; number of 6)

cells/well: 0.4×10

Fig. 5 is a graph illustrating a stimulatory effect of an inhibitor according to. . .

. . . invention induces dose-dependent apoptosis in resting T-cells (these dosages are higher than the extremely low doses used according to the invention). CD 19+B cells and CD4+/CD8+Tcells were isolated (>90% and >97% purity, respectively). The cells were then incubated overnight in the presence or absence of VBBP. . .

. . . CD26₊ PBMC populations were found to be equally susceptible to DPPIV inhibitor induced death. PBMC were stained with the anti-CD26

io monoclonal antibody, 4 EL, and then sorted into CD26₊ and CD26₋ populations using a facstar plus dual laser flow cytometry. The cells expressing. . . isolated as the CD26₊ and CD26₋ populations respectively. The purity of the populations as examined by staining with the anti-CD26 monoclonal antibody, 134-2C2, is >90%. The CD26₊ and CD26₋ populations were cultured overnight in the presence or absence of various concentrations of VBP.. . .

Fig. 8 is a graph showing that an inhibitor of CD26 (val-boroPro) inhibited the cytoplasmic enzyme as well.

. . . hereby incorporated by reference. In this application, one of the families of molecules in the '493 patent is described as the Xaa-boroPro molecules, exemplified by Ala-boroPro, Pro-boroPro, and Gly-boroPro. These Xaa-boroPro molecules are all candidate compounds for use in the methods of the present invention. Two of these compounds are used in some of the examples described below; those compounds are Lys-boroPro (KPB) and Val-boroPro (VBP).

very low doses of the Val-boroPro and Lys-boroPro stimulated proliferation of PBMC from HIV-infected patients, but not PBMC from uninfected patients.

As shown in Fig. 1, at no concentration of the boroPro enzyme inhibitor did it affect the PBMC from uninfected individuals. The inhibitor, at moderate concentrations, also did not cause proliferation of PBMC. . .

Concordant results are shown in Fig. 2, a histogram showing that low doses of Lys-

boroPro and Val-boroPro cause proliferation of PBMC of HIV-infected patients, while higher doses (I O-'M) do not have this effect.

Fig. 6 is a graph demonstrating that purified T-cells are highly sensitive to cytoplasmic T-cell dipeptidase inhibitors in moderate concentrations. CD19'B

cells and CD4⁺/CD8⁺ T-cells were isolated to high purity and incubated overnight in Val-boroPro. The amount of cell death was determined by 7AAD flow cytometry analysis. Data represent % of cell death from duplicate samples. These. . .

the inhibitor is administered immoderate concentrations. CD26⁺ and CD26⁻ populations were incubated overnight in the presence or absence of various concentrations of Val-boroPro. The amount of cell death was determined by 7AAD flow cytometry analysis. Data represent mean % of death from duplicate samples. These. . .

Fig. 8 presents data showing the effects of an inhibitor useful in the invention, Val-

boroPro. The experiments were carried out using two preparations: purified DPPIV (i.e., CD26), and Jurkat T-cell cytoplasmic extract, described above (Jurkat cells contain the cytoplasmic T-cell enzyme, but do not bear CD26 on their surfaces). These preparations were incubated with varying concentrations of Val-boroPro, and enzymatic activity was determined i o by measuring the accumulation of the fluorescent cleavage product of 7-amino trifluoromethylcoumarin (AFQ released from the substrate Ala-ProAFC upon enzymatic cleavage. Val-boroPro inhibited both the enzyme DPPIV and the cytoplasmic T-cell enzyme in the Jurkat preparation.

L17 ANSWER 5 OF 6 PCTFULL COPYRIGHT 2006 Univentio on STN

DETD . . . neoplasms are interesting as targets for treatment, notably leukaemia such as acute leukemia (AL), chronic leukemia (CL), T-cell acute leukemia (T-ALL), B-cell acute leukemia (B-ALL), T-cell chronic leukemia (T-CLL), B-cell chronic leukemia (B-CLL), prolymphocytic leukemia (PLL), acute undifferentiated leukemia (AUL), acute myelogenous leukemia 5 (AML), chronic myelogenous leukemia (CML), chronic myelomonocytic leukemia (CMML), . . . pro-B-ALL; lymphoma such as Burkitt's lymphoma (BL), non-Hodgkins lymphoma (NHL), Hodgkins lymphoma (HL), follicular lymphoma (FL), diffuse large cell lymphoma (DLCL), T-cell lymphoma, B-cell lymphoma; and myelodysplasia.

alpha makroglobulin, tumour associated trypsin inhibitor, urinary trypsin inhibitor, leupeptin, pyroglutamyl-Leu-Arg-CHO, 6-aminocaproic acid, p-aminobenzamidine, bis(5-amidino benzimidazolyl)methane, alpha-N-acetyl-L-lysine methyl ester, tosyl-lysine chloromethyl ketone, or Boc-D-Phe-ProBoro-Arg-OH, i.e. all well-known inhibitors of the plasminogen/plasmin system which may be used in vivo with acceptable toxicity.

they all rely on the use of a carrier molecule having a high affinity for the chosen tissue (such as a carrier antibody or fragment thereof) to which is covalently or non-covalently linked the active

substance in question. For the purposes of the present invention, an antibody (or fragment thereof) directed against a specific antigens overexpressed in tumours (such as carcino-embryonic antigen, Lewis antigen, transferrin, multi-drug resistance pump, glucose. . .

CLMEN. . . alpha makroglobulin, tumour associated trypsin inhibitor, urinary trypsin inhibitor, leupeptin, pyroglutamyl-Leu-Arg-CHO, 6-aminocaproic acid, p-aminobenzamidine, bis(5-amidino benzimidazolyl)methane, alpha-N-acetyl-L-lysine methyl ester, tosyl-lysine chloromethyl ketone, and Boc-D-Phe-ProBoro-Arg-OH.

=> s cancer? or neoplas? or tumor?

79320 CANCER?

23005 NEOPLAS?

66217 TUMOR?

L18 98755 CANCER? OR NEOPLAS? OR TUMOR?

=> d his

(FILE 'HOME' ENTERED AT 08:17:16 ON 29 JUN 2006)

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FILE 'PCTFULL' ENTERED AT 08:18:10 ON 29 JUN 2006

L1 39 S BOROPRO OR PROBORO OR VALBOROPRO

L2 24 S ANTIBOD? AND L1

L3 357416 S ADDITIVE OR SYNERG? OR ENHANC?

L4 22 S L3 AND L2

L5 12 S L4 NOT PY>2001

L6 10 S L4 NOT PY>2000

L7 0 S L6 AND CD20

L8 3 S L6 AND LYMPHOMA

L9 2 S L4 AND CD20

L10 1049 S ANTI () CD20

L11 2 S L10 AND L4

L12 28 S BOROPROLINE

L13 2 S L12 AND L10

L14 25810 S B () CELL

L15 9 S L14 AND L2

L16 2 S L2 AND CD20

L17 6 S L15 NOT PY>2001

L18 98755 S CANCER? OR NEOPLAS? OR TUMOR?

=> s l18 and l17

L19 5 L18 AND L17

=> d his

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L1 39 S BOROPRO OR PROBORO OR VALBOROPRO

L2 24 S ANTIBOD? AND L1

L3 357416 S ADDITIVE OR SYNERG? OR ENHANC?

L4 22 S L3 AND L2

L5 12 S L4 NOT PY>2001

L6 10 S L4 NOT PY>2000

L7 0 S L6 AND CD20

L8 3 S L6 AND LYMPHOMA

L9 2 S L4 AND CD20
 L10 1049 S ANTI () CD20
 L11 2 S L10 AND L4
 L12 28 S BOROPROLINE
 L13 2 S L12 AND L10
 L14 25810 S B () CELL
 L15 9 S L14 AND L2
 L16 2 S L2 AND CD20
 L17 6 S L15 NOT PY>2001
 L18 98755 S CANCER? OR NEOPLAS? OR TUMOR?
 L19 5 S L18 AND L17

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L19 ANSWER 1 OF 5 PCTFULL COPYRIGHT 2006 Univentio on STN
 ACCESSION NUMBER: 2001016301 PCTFULL ED 20020828
 TITLE (ENGLISH): QUIESCENT CELL DIPEPTIDYL PEPTIDASE: A NOVEL
 CYTOPLASMIC SERINE PROTEASE
 TITLE (FRENCH): DIPEPTIDYL PEPTIDASE DE CELLULE QUIESCENTE: UNE
 NOUVELLE SERINE PROTEASE CYTOPLASMIQUE
 INVENTOR(S): HUBER, Brigitte, T.;
 UNDERWOOD, Robert, H.
 PATENT ASSIGNEE(S): TUFTS UNIVERSITY;
 HUBER, Brigitte, T.;
 UNDERWOOD, Robert, H.
 DOCUMENT TYPE: Patent
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NUMBER	KIND	DATE

WO 2001016301	A1	20010308

DESIGNATED STATES
 W: AU CA JP AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC
 NL PT SE
 APPLICATION INFO.: WO 2000-US24052 A 20000901
 PRIORITY INFO.: US 1999-09/388,413 19990901

L19 ANSWER 2 OF 5 PCTFULL COPYRIGHT 2006 Univentio on STN
 ACCESSION NUMBER: 1999017799 PCTFULL ED 20020515
 TITLE (ENGLISH): CYTOPLASMIC DIPEPTIDYLPEPTIDASE IV FROM HUMAN T-CELLS
 TITLE (FRENCH): DIPEPTIDYLPEPTIDASE IV CYTOPLASMIQUE PROVENANT DE
 LYMPHOCYTES T D'ORIGINE HUMAINE
 INVENTOR(S): BOEHRINGER INGELHEIM PHARMACEUTICALS, INC.;
 HUBER, Brigitte, T.;
 UNDERWOOD, Robert;
 KABCENELL, Alisa, K.;
 SNOW, Roger, J.
 PATENT ASSIGNEE(S): TRUSTEES OF TUFTS COLLEGE ET AL.
 LANGUAGE OF PUBL.: English
 DOCUMENT TYPE: Patent
 PATENT INFORMATION:

NUMBER	KIND	DATE

WO 9917799	A1	19990415

DESIGNATED STATES
 W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE
 ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC
 LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU
 SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW GH GM
 KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE
 CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ
 CF CG CI CM GA GN GW ML MR NE SN TD TG
 APPLICATION INFO.: WO 1998-US20968 A 19981006
 PRIORITY INFO.: US 1997-08/944,265 19971006

L19 ANSWER 3 OF 5 PCTFULL COPYRIGHT 2006 Univentio on STN
 ACCESSION NUMBER: 1999016864 PCTFULL ED 20020515
 TITLE (ENGLISH): STIMULATION OF HEMATOPOIETIC CELLS IN VITRO
 TITLE (FRENCH): STIMULATION DE CELLULES HEMATOPOIETIQUES IN VITRO
 INVENTOR(S): BACHOVCHIN, William;
 WALLNER, Barbara
 PATENT ASSIGNEE(S): POINT THERAPEUTICS, INC.
 LANGUAGE OF PUBL.: English
 DOCUMENT TYPE: Patent
 PATENT INFORMATION:

NUMBER	KIND	DATE
WO 9916864	A1	19990408

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 W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE
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 LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO
 RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW GH
 GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT
 BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF
 BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

APPLICATION INFO.: WO 1998-US20343 A 19980929
 PRIORITY INFO.: US 1997-60/060,306 19970929

L19 ANSWER 4 OF 5 PCTFULL COPYRIGHT 2006 Univentio on STN
 ACCESSION NUMBER: 1998024474 PCTFULL ED 20020514
 TITLE (ENGLISH): INHIBITION OF INVASIVE REMODELLING
 TITLE (FRENCH): INHIBITION DU REMODELAGE INVASIF
 INVENTOR(S): LUND, Leif, Roge;
 DANO, Keld;
 STEPHENS, Ross;
 BRUENNER, Nils;
 SOLBERG, Helene;
 HOLST-HANSEN, Claus;
 NIELSEN, John, Romer
 PATENT ASSIGNEE(S): FONDEN TIL FREMME AF EKSPERIMENTEL CANCERFORSKNING;
 LUND, Leif, Roge;
 DANO, Keld;
 STEPHENS, Ross;
 BRUENNER, Nils;
 SOLBERG, Helene;
 HOLST-HANSEN, Claus;
 NIELSEN, John, Romer
 LANGUAGE OF PUBL.: English
 DOCUMENT TYPE: Patent
 PATENT INFORMATION:

NUMBER	KIND	DATE
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DESIGNATED STATES
 W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE
 ES FI GB GE GH HU ID IL IS JP KE KG KP KR KZ LC LK LR
 LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE
 SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW GH KE LS
 MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH DE
 DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI
 CM GA GN ML MR NE SN TD TG

APPLICATION INFO.: WO 1997-DK555 A 19971208
 PRIORITY INFO.: DK 1996-1402/96 19961206

L19 ANSWER 5 OF 5 PCTFULL COPYRIGHT 2006 Univentio on STN
 ACCESSION NUMBER: 1998000439 PCTFULL ED 20020514
 TITLE (ENGLISH): MULTIVALENT COMPOUNDS FOR CROSS-LINKING RECEPTORS AND
 USES THEREOF

TITLE (FRENCH): COMPOSES MULTIVALENTS POUR LA RETICULATION DE
 RECEPTEURS ET UTILISATIONS ASSOCIES
 INVENTOR(S): BACHOVCHIN, William, W.
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W:

AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE
 ES FI GB GE HU IL IS JP KE KG KP KR KZ LC LK LR LS LT
 LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI
 SK TJ TM TR TT UA UG US UZ VN GH KE LS MW SD SZ UG ZW
 AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES FI FR GB
 GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR
 NE SN TD TG

APPLICATION INFO.: WO 1997-US11279 A 19970627
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=> s wo 0071135/pn
 L20 0 WO 0071135/PN
 (WO71135/PN)

=> s wo 2000071135/pn
 L21 1 WO 2000071135/PN
 (WO2000071135/PN)

=> d his

(FILE 'HOME' ENTERED AT 08:17:16 ON 29 JUN 2006)

FILE 'DGENE' ENTERED AT 08:18:01 ON 29 JUN 2006

FILE 'PCTFULL' ENTERED AT 08:18:10 ON 29 JUN 2006

L1 39 S BOROPRO OR PROBORO OR VALBOROPRO
 L2 24 S ANTIBOD? AND L1
 L3 357416 S ADDITIVE OR SYNERG? OR ENHANC?
 L4 22 S L3 AND L2
 L5 12 S L4 NOT PY>2001
 L6 10 S L4 NOT PY>2000
 L7 0 S L6 AND CD20
 L8 3 S L6 AND LYMPHOMA
 L9 2 S L4 AND CD20
 L10 1049 S ANTI () CD20
 L11 2 S L10 AND L4
 L12 28 S BOROPROLINE
 L13 2 S L12 AND L10
 L14 25810 S B () CELL
 L15 9 S L14 AND L2
 L16 2 S L2 AND CD20
 L17 6 S L15 NOT PY>2001
 L18 98755 S CANCER? OR NEOPLAS? OR TUMOR?
 L19 5 S L18 AND L17
 L20 0 S WO 0071135/PN
 L21 1 S WO 2000071135/PN

=> s l21 and l1
 L22 1 L21 AND L1

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=> s 122 and 12
L23          1 L22 AND L2

=> s 123 and 118
L24          1 L23 AND L18

=> s 124 and 114
L25          0 L24 AND L14

=> s 14 and lymphom?
          18476 LYMPHOM?
L26          7 L4 AND LYMPHOM?

=> s 124 and lymphom?
          18476 LYMPHOM?
L27          0 L24 AND LYMPHOM?

=>

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---Logging off of STN---

```

=>
Executing the logoff script...

```

```

=> LOG Y

```

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
FULL ESTIMATED COST	ENTRY	SESSION
	54.48	55.91

STN INTERNATIONAL LOGOFF AT 08:38:16 ON 29 JUN 2006